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DENMARK'S

LIVESTOCK AND MEAT INDUSTRY



FOREWORD

Denmark has long exported livestock and meat products. From its strategic geographic location, this country has maintained a competitive position in world markets for agricultural products for more than 100 years. In recent years, two-thirds of the nation's agricultural production has been exported, and most of these exports have been livestock and meat products.

This study is one of a series designed to help keep people in the livestock industry and in government informed of developments in countries that export livestock and meat products.

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Denmark's Livestock and Meat Industry

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INTRODUCTION

Denmark is a land of bountiful beauty. Its landscaped countryside and clean cultivated fields are the trademarks of its industrious farmers, who through the centuries, by removing the stones laid down during the Ice Age and applying sound farming techniques, have brought considerable productivity to their small country.

Denmark's climate is very favorable to agriculture. The average rainfall is about 25 inches and is well distributed over the year, except that the spring months—when early growth of crops and pastures are needed—are the driest, and the harvest month of August is the wettest. The average temperature is 46° F., with the coldest months, January and February, averaging 32° F. and the warmest month, July, averaging 61° F.

Denmark is virtually surrounded by water. Jutland, which has a little more than half of the total land area, has a land frontier of 42 miles where it borders on Germany. The remainder of the country consists entirely of about 500 islands, of which 100 are inhabited.

The total land area is about 10.6 million acres; of this, 7.5 million are devoted to agriculture. Cultivated areas and fields under crop rotation account for about 87 percent of the agricultural land. Permanent grasses account for only 13 percent. About one-half of the area under crop rotation is in cereal crops (wheat, rye, barley, oats, etc.); one-fifth is in root crops (largely fodder, beets, and potatoes); one-fifth is in grasses; and the remaining one-tenth is in horticultural and other specialized crops.

With this type of agriculture, the dominant enterprise could only be livestock. The livestock enterprises also are mixed. Most farmers have two or more livestock enterprises in addition to their various crops. Cattle and pigs are a common combination, while many farmers also raise poultry.

Because of its geological origins, Denmark has no minerals for industrial use. The country's economy is largely dependent upon its soil (as improved by its farmers), climate, and geographic position as a trading nation.

Irrespective of many natural farming advantages, Danish farmers are faced with numerous problems. The most difficult problem is a familiar one: Prices of items Danish farmers purchase are continuing to increase while average prices of commodities they sell are increasing less or not at all. Through producer-oriented marketing organizations, Danish farmers are continuing to effect increases in prices for the proportion of their commodities sold in the domestic market, since domestic prices are geared to production costs. However, two-thirds of Denmark's agricultural production is exported. Consequently, the Danish agricultural economy is heavily dependent upon export markets.

PRODUCTION FACTORS

Importance of livestock

Denmark has a population of 4.9 million of which about 11 percent are engaged in farming. Although agriculture accounts for only 11 percent of the gross national product, two-thirds of the farm output (mostly livestock products) is exported.

Danish agriculture is based on an intensive, mixed type of farming. About 90 percent of the plant production is used as feed in the production of milk, meat, eggs, and other livestock products. Livestock and meat products, excluding dairy and poultry products, account for about 45 percent of the total gross farm income. Dairy and poultry products account for some 35 percent of the gross income.

Farm organizations

The Danish farmer who does not depend on the services of one or more cooperative associations is a rarity. A Danish farmer, for example, might belong to a local consumer society, a production society, a machine station, a feedstuff society, or any other of 12 specialized local groups. Each of these is affiliated with one or more of 29 national organizations.

The production societies include export associations such as the cooperative bacon factories and slaughterhouses. Cooperative export associations work closely with commercial export firms, while farmer cooperative members are required to deliver their products to cooperative associations for agreed-upon periods so that export quotas may be met.

At the national level, there are three principal groups of farm organizations:

1. The National Farmers' Union (The Agricultural Societies) which has 139 regional organizations and about 136,000 farm members. Most of the members operate medium-sized farms.
2. The Federation of Smallholders' Unions, which includes virtually every farm with less than 25 acres. Smallholders are cooperative members to a man.
3. The National Federation of Large Farmers' Unions, most commonly known as "Twelve-Man Unions" because local associations of large farmers often had no more than a dozen members.

The Agricultural Council, with membership from the National Farmers' Union, the Federation of Cooperative Societies, and the nine agricultural (commodity) export committees, represents Danish agriculture in matters concerning the government and its various ministries, other industries, and foreign countries. The articles of the Council do not establish any definite limits to its activities. The Council may take up any task which its contributing organizations agree to be appropriate and in their common interest. The Smallholders, which withdrew from the Council in 1939, have representation indirectly through the Cooperative Societies.

The Agricultural Council is the organization through which the government and Parliament deal with questions concerning agriculture. The Council cooperates with the government in measures to promote the sale of agricultural products, including joint supervision of agricultural attachés abroad. The Council may also post its own representatives abroad to look after agricultural trade interests.

Financial aspects

About 95 percent of all Danish farms are owned individually by farmers. This means that a person who desires to farm can achieve this objective only by purchasing one. Even where a farm is obtained through inheritance, normally one member of the family purchases the equities of other surviving relatives. Consequently, substantial capital is one of the first prerequisites for farming in Denmark.

Andelsbanken, the Danish Cooperative Bank, is owned by cooperative organizations and individual shareholders. It has branches all over the country, and loans to individual customers, particularly farmers, are normal

business. However, most farmers have loans from the mortgage credit associations, which are the main sources of mortgages on real estate. These also are cooperative societies with the borrowers as members.

There are a number of other associations, such as the Cooperative Supply Organization, from which Danish farmers obtain credit. Farmers purchase agricultural machinery, fertilizers, animal feeds, and consumer goods from these cooperatives.

The capital investment in farming is large in relation to output, primarily because land is expensive; then, specialized implements and machinery are required to maximize output per farm worker to achieve a satisfactory return from relatively small holdings (the average size of a farm is about 45 acres). Substantial working capital is required, and for livestock the turnover is relatively slow due to the gestation periods of the animals and the time required to feed animals to the desired weights for marketing.

Published surveys indicate that the average value of farmland in Denmark was about \$225 per acre in 1966. The values of farm buildings were equivalent to about \$374 per acre. Livestock was valued at the equivalent of \$125 per acre, and implements and machinery at \$78 per acre. The total agricultural capital was equivalent to \$802 per acre. Thus the total agricultural capital for the average farm of 45 acres was \$36,090.

In 1967 the agricultural capital per farm was valued at \$37,533 and the total real property of the average farmer was estimated at \$40,841 (including cash in banks, accounts receivable, etc.). The liabilities, including mortgage debts, loans and accounts payable, totaled \$16,777. The mortgage debt was equivalent to about 35 percent of the agricultural capital, and total debts were equal to 41 percent of the total assets.

During the 1966-67 fiscal year, the average gross returns per farm were equivalent to about \$260 per acre. The average operating costs per farm also were equivalent to approximately \$260 per acre (this included allowances for family labor and management). Interest at 6 percent on the agricultural capital was equal to \$50 per acre, but interest on debts alone was roughly equivalent to only \$22 per acre. This means that the average farmer had to use some of the money that cost accountants allocate to family labor and management to pay the interest on his debts. To repay the principle, he would have to use more of the money allocated to labor and management earnings.

The data on which the above farm costs and returns are based allocated the equivalent of \$53 per acre for family labor and \$30 per acre for management. Thus, the total return for family labor and management for the average farm of 45 acres was about \$3,735. Assuming that the average farmer paid 6 percent interest (about \$990) on his indebtedness, his net return to capital, labor, and management was \$2,745.

The phenomenon whereby income earnings from capital invested in agriculture are negligible for any year or period of years does not apply only to Denmark. Perhaps when all the aspects of averaging and cost accounting are taken into consideration, the above figures may represent a relatively high level of farm income. Nevertheless, these figures illustrate that Danish farm production costs are not necessarily low.

Livestock numbers

Cattle.—Cattle inventory numbers were estimated at 3.0 million head as of January 1969, compared with 3.1 million in January 1968 and 3.3 million for the 1961-65 average (table 1). This downturn in numbers reflects the many uncertainties involved in Denmark's export prospects for dairy products, as well as for cattle and beef.

Dairy cattle predominate although many of the cows are dual-purpose breeds. Red Danish dairy cattle are the dominant breed, with over 50 percent of the total. The Black and White Danish (Friesian) breed accounts for about 30 percent. Both of these breeds have been bred and selected for dual-purpose characteristics. Most of the remaining 20 percent are Jersey cattle.

Hogs.—Hog numbers were 7.8 million in January 1969, compared with 8.1 million in January 1968 and 7.3 million for the 1961-65 average (table 1). Although hog numbers are appreciably above the level of 10 years ago, there has been no increase over 1965 numbers.

Nearly all of the hogs in Denmark are Landrace. In fact, since 1961, this has been the only recognized breed there. The Danish Landrace is a special bacon breed that has been improved by the selection of the best breeding animals for more than 70 years. Selection is on the basis of meat quality, growth rate, and fertility. The breeding program is coordinated within a national plan, which is directed by a national body of experts selected by the industry and farm organizations.

The main influence on breeding is progeny testing. This is done at four large Pig Progeny Testing Stations, where housing and feed rations are identical. The pigs that are tested come from about 230 farms that are

Table 1.—DENMARK: Livestock numbers

Year	Cattle and calves ¹	Hogs ¹	Sheep ²	Horses ²
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
Average:				
1956-60	3,177	5,293	37	231
1961-65	3,318	7,284	65	85
Annual:				
1961	3,358	6,438	46	125
1962	3,461	7,072	53	100
1963	3,393	7,260	61	81
1964	3,197	7,444	71	64
1965	3,183	8,205	93	53
1966	3,266	8,159	112	45
1967	3,231	8,081	122	42
1968	3,142	8,061	112	40
1969 ³	3,004	7,769	(4) ⁴	(4) ⁴

¹ January census. ² July census. ³ Preliminary. ⁴ Not available.

established as breeding centers. These farms, which are selected by the National Pig Breed Committee, have about 4,300 breeding animals. Each year, certain pigs from each sow in the breeding centers are tested at the Progeny Testing Stations. Feed consumption and growth rate are recorded, and after slaughter the carcasses are subjected to detailed measurements and assessments of quality and value. The elite breeding stock at the breeding centers, which are approved as a result of the testing program, supply breeding stock for approved multiplier herds and commercial pig production. The approved multiplier breeding herds are also subjected to progeny testing, and 19 stations are available for this purpose. A total of about 20,000 are tested from the breeding centers and multiplier herds each year.

Sheep.—Danish farmers have never been interested to any appreciable extent in sheep. However, with declining prices for dairy products, sheep numbers increased from 46,000 head in July 1961 to 112,000 in July 1968 (table 1). This represents a more than twofold increase in sheep numbers over an 8-year period.

Most of the increase in sheep numbers apparently occurred in the less productive, or marginal areas, of western Jutland. In these areas sheep, primarily for lamb and mutton production, are a good alternative to dairying because sheep require much less labor and capital. Also, in sheep production lower quality and less expensive feeds can be utilized. Sheep numbers are likely to continue to increase, particularly if the outlook continues to be gloomy for dairy products.

Production practices

In commercial hog production, specialization in the production of feeder pigs or in feeding for slaughter is fairly common. However, nearly two-thirds of the commercial hog farmers both feed pigs for slaughter and keep breeding sows. Many of these farmers purchase additional piglets or feeder pigs in order to feed larger numbers for slaughter. Piglets, or feeder pigs, are often supplied by the smaller family farms. Producers on small holdings generally keep a relatively large number of sows and sell the piglets to make the maximum use of family labor.

The feeding of pigs for slaughter is truly a specialized industry in Denmark. Producers are convinced that housing and feeding must be correct to insure outstanding carcass quality and a profitable operation. Danish research has shown that substandard housing causes an increase in consumption of feed and poor quality meat, even from outstanding breeding stock. Much has been done to maintain desired temperatures and dry air in pig houses by insulation and ventilation.

Pigs and slaughter hogs generally are always kept indoors. For feeding, the houses are divided into pens, with about 10 pigs in each pen. Breeding sows, whether kept on the same farm with feeder pigs or on specialized farms,

often are let out in a field or lot during the suitable weather periods prior to farrowing. This has proven to be beneficial to their general condition and health.

Since the Danish Landrace is a special bacon hog, the correct proportions and total quantities of various feed ingredients fed to slaughter hogs is of extreme importance. This is particularly true if lean pigmeat of good quality is to be produced. Barley is considered to be unquestionably the best grain to include in the ration. In fact, barley and skim milk previously constituted most of the feed for slaughter hogs. With increasing pig production and the greater use of skim milk for other purposes, it has been necessary to include other protein in the rations. Soybean meal is the principal protein used in feed mixtures, even though part of the protein is still supplied by skim milk or skim milk powder.

Numerous farmers still purchase feed ingredients separately and grind the grain and mix their own animal feeds. However, an increasing number are purchasing commercially mixed rations to reduce their labor inputs. Also, many of the producers have used a high degree of ingenuity in installing labor-saving devices for feeding and caring for their animals.

Specialization in beef cattle production, in contrast to hog production, is rare. Cattle for meat production became secondary to dairying in Denmark before the turn of the century. The complementary aspects of hog production and dairying, with skim milk and whey being fed to hogs, relegated beef and veal production to byproduct status. With milk the primary source of income from cattle and veal more popular than beef, it is surprising that dairy breeding stock consistently continued to be selected on the basis of dual-purpose characteristics.

Dual-purpose type cattle continued to be popular, partly because this enhanced the value of cull cows as slaughter animals. The Red Danish cows are Denmark's primary source of beef. Also, until recent import restrictions imposed by the European Community (EC) reduced the trade, large numbers of Danish cows were exported to West Germany as slaughter animals each year.

In recent years, the feeding of cattle, young bulls, and some heifers not needed for replacement animals, has become increasingly common. However, feedlot or grain fattening of cattle is still rare in Denmark. Pastures, hay, and other roughage are utilized to a maximum extent because feed grains are relatively expensive.

Large numbers of young dairy stock are still utilized for veal. Increasing numbers are being fed with commercial feeds containing milk replacer or milk substitutes. The objective, as is the case throughout Europe, is to produce a heavier veal calf in the shortest possible time. Although the trend toward production of heavier weight calves results in a corresponding increase in meat production, the strong demand for calves for veal production is a deterrent to beef production. Farmers prefer to sell their calves, especially when veal prices are relatively high, and utilize their pastures and other locally-produced feeds as well as imported supplies to produce pork, dairy products, and poultry.

Marketing practices

The major proportion of all Danish agricultural commodities, both for domestic consumption and for export, is sold through cooperatives. The principles of cooperation have been applied successfully to all branches of agriculture. The cooperatives buy, process, and sell on behalf of their member producers. The majority of farmers are members of cooperatives, such as the cooperative bacon factories, for which they have delivery obligations. These legal contracts, along with a guarantee signed by each member to cover all present and future debts of the organization, permit the cooperatives to make short- and long-term plans with respect to both sales and the financing of their operations. The secret of Denmark's success in marketing agricultural products is largely one of finance. In addition to providing finance for production prerequisites, banks and credit associations supply short-term loans to finance processing and marketing operations. Export sales are promoted and financed to an appreciable extent by funds collected from levies on farm sales.

For commodities in export surplus, Denmark has since 1962 employed a system of price-averaging between regulated domestic markets and export sales to determine farm prices. Some of the marketing schemes are based on voluntary agreements, while others are based on acts of Parliament. Marketing arrangements for pork, beef, and veal, are based on acts of Parliament.

Although the marketing schemes for individual commodities vary somewhat in detail, the complex arrangements for marketing hogs and pig meat illustrate the general methods employed for products produced in excess of domestic requirements. Price components used for formation of hog prices from January 1, 1968, to July 28, 1969, are shown in table 2.

Table 2.—DENMARK: Hog prices and price formation, slaughter weight¹

Period	Col. 1	Col. 2 = 7-1	Col. 3	Col. 4	Col. 5 = 1+4	Col. 6 = 1+2+3	Col. 7 = 6-3
	Nationwide quotation	Home- market levy	Levy to bacon factories	Home- market levy paid to producers	Total price paid to producers	Total home- market price	Home- market price approved by Monopoly Commission
	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>
1/ 1/63—2/ 2/63...	26.4	4.4	3.0	0.9	27.3	33.8	30.8
2/ 4/63—2/23/63...	27.3	3.5	3.0	.7	28.0	33.8	30.8
2/25/63—3/ 2/63...	26.5	5.4	3.0	1.0	27.6	34.9	31.9
3/ 4/63—3/30/63...	24.8	7.1	3.0	1.4	26.2	34.9	31.9
4/ 1/63—5/ 4/63...	22.4	9.5	3.0	2.0	24.4	34.9	31.9
5/ 6/63—6/15/63...	24.7	7.2	3.3	1.4	26.1	35.2	31.9
6/17/63—6/19/63...	25.9	6.0	3.3	1.2	27.1	35.2	31.9
6/ 1/63—7/20/63...	24.3	7.6	3.3	1.5	25.8	35.2	31.9
6/22/63—7/27/63...	26.1	5.8	3.3	1.2	27.3	35.2	31.9
7/29/63—8/10/63...	26.8	5.1	3.3	1.0	27.8	35.2	31.9
8/12/63—8/24/63...	28.0	3.9	3.3	.8	28.8	35.2	31.9
8/26/63—10/ 5/63...	28.6	3.3	3.3	.7	29.3	35.2	31.9
10/ 7/63—11/16/63...	28.9	3.0	3.3	.7	29.6	35.2	31.9
11/18/63—1/11/64...	29.8	2.1	3.3	.4	30.2	35.2	31.9
1/13/64—2/29/64...	31.9	—	3.3	0	31.9	35.2	31.9
3/ 2/64—3/14/64...	31.4	.5	3.3	.1	31.5	35.2	31.9
3/16/64—5/ 2/64...	30.2	2.1	3.3	.4	30.6	35.6	32.3
5/ 4/64—5/30/64...	30.2	2.1	3.3	.5	30.7	35.6	32.3
6/ 1/64—7/11/64...	27.9	4.4	3.3	1.1	28.9	35.6	32.3
7/16/64—7/18/64...	28.5	3.8	3.3	.9	29.4	35.6	32.3
7/20/64—8/15/64...	29.5	2.8	3.3	.7	30.2	35.6	32.3
8/17/64—8/29/64...	28.6	3.7	3.3	.9	29.5	35.6	32.3
8/31/64—11/ 7/64...	27.7	4.6	3.3	1.0	28.7	35.6	32.3
11/ 9/64—11/14/64...	27.7	4.6	3.3	1.2	28.9	35.6	32.3
11/16/64—11/21/64...	28.3	4.0	3.3	1.0	29.3	35.6	32.3
11/23/64—12/19/64...	29.9	2.4	3.3	.8	30.7	35.6	32.3
12/21/64—1/ 2/65...	30.3	2.4	3.3	.4	30.7	36.0	32.7
1/ 4/65—1/10/65...	31.1	1.6	3.3	.4	31.5	36.0	32.7
1/11/65—1/24/65...	28.5	4.2	3.3	.1	29.6	36.0	32.7
1/25/65—2/ 7/65...	28.5	4.2	3.3	0	28.5	36.5	32.7
2/ 8/65—2/21/65...	27.3	5.4	3.3	0	27.3	36.0	32.7
2/22/65—3/14/65...	26.1	6.6	3.3	0	26.1	36.0	32.7
3/15/65—3/21/65...	27.2	5.5	3.3	0	27.2	36.0	32.7
3/22/65—4/11/65...	28.3	4.4	3.3	0	28.3	36.0	32.7
4/12/65—4/25/65...	26.5	6.2	3.3	0	26.5	36.0	32.7
4/26/65—5/29/65...	24.7	8.0	3.3	.9	25.6	36.0	32.7
5/10/65—5/16/65...	26.3	6.4	3.3	.6	26.9	36.0	32.7
5/17/65—5/23/65...	28.1	4.6	3.3	.4	28.5	36.0	32.7
5/24/65—7/ 4/65...	28.1	4.6	3.3	.4	28.1	36.0	32.7
7/ 5/65—7/11/65...	24.7	8.0	3.3	.6	25.3	36.0	32.7
7/12/65—9/ 5/65...	24.7	8.0	3.3	0	24.7	36.0	32.7
9/ 6/65—9/19/65...	24.7	9.6	3.3	.4	25.1	37.6	34.3
9/20/65—10/ 3/65...	26.3	8.0	3.3	.4	26.7	37.6	34.3
10/ 4/65—10/10/65...	27.2	7.1	3.3	1.1	28.3	37.6	34.3
10/11/65—10/24/65...	28.1	6.2	3.3	.9	29.0	37.6	34.3
10/25/65—11/14/65...	28.6	5.7	3.3	.8	29.4	37.6	34.3
11/15/65—1/ 9/66...	29.4	4.9	3.3	.9	30.3	37.6	34.3
1/10/66—2/27/66...	28.4	5.9	3.3	1.2	29.6	37.6	34.3
2/28/66—3/ 6/66...	29.7	4.6	3.3	.9	30.6	37.6	34.3
3/ 7/66—4/17/66...	30.6	3.7	3.3	.6	31.2	37.6	34.3
4/18/66—5/ 1/66...	32.1	2.2	3.3	.4	32.5	37.6	34.3
5/ 2/66—6/19/66...	32.1	3.5	3.3	.4	32.5	38.9	35.6
6/ 2/66—9/11/66...	32.5	3.1	3.3	0	32.5	38.9	35.6
9/12/66—11/20/66...	31.4	4.2	3.3	0	31.4	38.9	35.6
11/21/66—11/27/66...	32.4	3.2	3.3	0	32.4	38.9	35.6

See footnotes at end of table.

Table 2.—DENMARK: Hog prices and price formation, slaughter weight¹—Continued

Period	Col. 1	Col. 2 = 7-1	Col. 3	Col. 4	Col. 5 = 1+4	Col. 6 = 1+2+3	Col. 7 = 6-3
	Nationwide quotation	Home- market levy	Levy to bacon factories	Home- market levy paid to producers	Total price paid to producers	Total home- market price	Home- market price approved by Monopoly Commission
	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>	<i>Cents per lb.</i>
11/28/66— 2/ 5/67...	33.1	2.5	3.3	0	33.1	38.9	35.6
2/ 6/67— 2/19/67...	32.4	3.2	3.3	0	32.4	38.9	35.6
2/20/67— 4/ 9/67...	30.5	5.1	3.3	0	30.5	38.9	35.6
4/10/67— 5/21/67...	28.4	7.2	3.3	0	28.4	38.9	35.6
5/22/67— 6/25/67...	29.8	5.8	3.3	0	29.8	38.9	35.6
6/26/67— 7/ 1/67...	29.8	5.8	3.3	.6	30.4	38.9	35.6
7/ 2/67— 7/ 9/67...	29.8	7.0	3.3	.6	30.4	40.1	36.8
7/10/67—10/31/67...	29.8	7.0	3.3	1.3	31.1	40.1	36.8
11/ 1/67—11/ 5/67 ² ...	27.4	6.5	3.0	1.3	28.6	36.9	33.9
11/ 6/67—11/19/67...	26.4	7.6	3.0	1.3	27.7	36.9	33.9
11/20/67—11/26/67...	24.8	9.1	3.0	1.6	26.4	36.9	33.9
11/26/67—12/ 3/67...	25.7	8.2	3.0	1.5	27.2	36.9	33.9
12/ 4/67— 2/11/68...	26.6	7.3	3.0	1.2	27.8	36.9	33.9
2/12/68— 2/25/68...	24.9	9.0	3.0	1.5	26.4	36.9	33.9
2/26/68— 3/10/68...	24.4	9.5	3.0	1.6	26.0	36.9	33.9
3/11/68— 3/24/68...	23.2	10.7	3.0	1.8	25.0	36.9	33.9
3/25/68— 3/31/68...	23.9	10.0	3.0	1.7	25.6	36.9	33.9
4/ 1/68— 4/21/68...	24.8	9.1	3.0	1.6	26.4	36.9	33.9
4/22/68— 5/26/68...	23.2	10.7	3.0	1.9	25.1	36.9	33.9
5/27/68— 6/ 9/68...	24.4	9.5	3.0	1.7	26.1	36.9	33.9
6/10/68— 8/25/68...	25.3	8.6	3.0	1.6	26.9	36.9	33.9
8/26/68—11/10/68...	25.3	8.6	3.0	1.6	26.9	36.9	33.9
11/11/68—11/17/68...	24.8	9.1	3.0	1.6	26.4	36.9	33.9
11/18/68—12/ 8/68...	26.2	7.7	3.0	1.3	27.5	36.9	33.9
12/19/68— 1/12/69...	25.5	8.4	3.0	1.4	26.9	36.9	33.9
1/ 3/69— 3/ 2/69...	26.5	7.4	3.0	1.2	27.7	36.9	33.9
3/ 3/69— 6/ 1/69...	26.5	7.9	3.0	1.3	³ 27.8	37.4	34.4
6/ 2/69— 6/ 8/69...	27.4	7.0	3.0	1.1	28.5	37.4	34.4
6/ 9/69— 6/15/69...	28.2	6.2	⁴ 2.4	.9	29.1	36.8	34.4
6/16/69— 7/13/69...	28.9	5.5	2.4	.8	29.7	36.8	34.4
7/14/69— 7/27/69...	30.7	3.7	2.4	.5	31.2	36.8	34.4
7/ 2/69— - ...	30.2	4.2	2.4	.7	30.9	36.8	34.4

¹ Prices for the period 1/1/63 through 11/11/68 based on one-third of the carcasses grading A1 and two-thirds A; from 11/11/68 to 7/28/69 on 40 percent Grade A1 and 60 percent A.

² Most of decline in prices for this period was due to Danish devaluation of 7.9 percent effective 11/1/67.

³ Effective March 2, 1969, cooperative bacon factories decided to pay producers an advance of 0.6 cent per pound above prices shown in column 5 and deduct equivalent amount from producers' year-end settlement. In 1968 producers' cooperative earnings amounted to an additional payment of some 1.5 to 2.0 cents per pound.

⁴ Effective 6/9/69, bacon factories began collecting 0.6 cent per pound less from producers rather than paying them 0.6 cent advance above prices shown in column 5. This may have been a temporary adjustment as the bacon factories continued to allocate 3.0 cents per pound to the bacon factories' levy fund.

There are seven price components for the formation of hog prices. The approved home-market price, the nationwide quotation, the home-market levy, and the levy to bacon factories are the most important price components.

The approved home-market price for hogs is based on realistic estimates of total production costs. Increases in production costs are reduced by the amount of the productivity index. Costs of production have been increasing by about 5 percent annually, compared with productivity index increases of from 2 to 3 percent. The approved home-market price for 1969 was established at 34.4 cents per pound, carcass weight.

The nationwide quotation represents returns from bacon exported to the United Kingdom on the basis of prevailing prices. The nationwide quotation is subject to change weekly; however, every effort is made to keep this price component as stable as the U.K. market will permit. In mid-1969, the nationwide quotation was 30.2 cents per pound.

The home-market levy is simply the amount needed to bring the nationwide quotation up to the approved home-market price. In mid-1969 the levy was 4.2 cents per pound. The home-market levy is collected on all hog marketings, but the levy or its equivalent is refunded on all exports.

The levy to bacon factories is a specific amount set by the enabling legislation. Currently the levy is 50 øre per kilogram or about 3.0 U.S. cents per pound of pork, carcass weight. The levy to bacon factories is collected on all marketings. It is used to finance and promote exports of canned pork.

The home-market levy paid to producers, the total price paid to producers, and the total home-market price are calculated on the basis of other price components. The levy paid to producers is a percentage of the home market levy equivalent to the proportion of the total hog production that is consumed by the domestic market. The total price paid to producers is the nationwide quotation plus the domestic-market proportion of the home-market levy. The total home-market price is the nationwide price plus the home-market levy and the levy to bacon factories.

The difference between the nationwide price and prices paid to producers is made up by payments from the home-market levy equivalent to that proportion of the pork used by the domestic market. The remaining proportion of the fund from the home-market levy—in fact, the export equivalent of the levy—is refunded on proof of export. Consequently, the nationwide price, plus the levy to bacon factories, is the basis for the pricing of bacon destined for export to the United Kingdom.

Bacon factories canning pig meat for export cannot buy pig meat at the prevailing prices for bacon exports to the United Kingdom and operate at a profit (i.e., the home-market price with a refund of the home-market levy). Consequently the levy to bacon factories is also refunded to bacon factories canning pork for export. Therefore, the nationwide quotation is the price component that reflects the basic costs of pork to factories canning meat. Normally the canning factories cannot export at a profit on this basis either, and quantitative rebates are paid on exports of canned pork. Funds for these quantitative rebates come from the fund accumulated by the levy to bacon factories, which is collected on all hog sales. Additional rebates from the government's Disposal Fund are paid on exports of canned meats to impoverished countries. Rebates are also granted on exports of fresh, frozen, or salted middle parts, streaky bacon, and pork loin, to countries outside the European Free Trade Association (EFTA). Quantitative rebates are not granted on exports to EFTA countries.

The pricing system for hogs provides a relatively simple procedure for deriving hog prices that will reflect average returns from all sales outlets. The best prices are received for hogs slaughtered to produce pig meat for the domestic market. The United Kingdom is the best export market from the standpoint of both price and quantity. The lowest priced market for pig meat is the bacon factories that export canned pork products. During 1968, the total average price paid to producers ranged from 25 to 31 cents per pound, carcass weight, while the equivalent price of pork destined for the home market remained relatively stable at about 37 cents (table 2). The wide variation in the total price paid to producers reflects the unstable world market and the domestic producers' dependence upon foreign markets.

The marketing arrangement for cattle, in principle, is similar to the hog marketing scheme. However, the two marketing arrangements are different in detail. The major difference is that there is no common quotation for beef and veal.

The wholesale quotations for beef and veal at the Copenhagen meat market are published each week. These prices help establish the market for cattle, but producers or cattle dealers delivering cattle to slaughterhouses bargain individually. Sales are made on the basis of weight and quality, but there is no uniform price formation.

An estimate of the prevailing prices paid to producers for cattle is made each week by the Danish Farmers' Cattle and Beef Export Organization (OXEXPORT), the Danish Farmers' Livestock Sales Organization, and the Federation of Danish Cooperative Cattle Export Societies. In general, the producer price arrived at in this manner is a combined estimate of the prevailing domestic- and export-market prices. A home-market levy (slaughter fee) is put into effect if the average return from domestic and export sales is estimated to be less than the approved home-market price, which is based on the costs of production. The home-market levy is the difference between the estimated average return to producers and the approved home-market price. This levy is refunded on all exports of beef, as is the case for hogs. The balance collected after deduction for administration costs is paid to producers of slaughter cattle as additional payments per head, graduated by liveweight of the slaughtered animals.

A home-market levy for beef and veal has been in effect since October 31, 1966, except for brief periods. The home-market price for cattle, the home-market levy for beef and veal, and the additional payments (from the levy fund) made to producers for cattle are shown in table 3.

Table 3.—DENMARK: Cattle and calves—approved home-market price, home-market levy, and additional payment to producers

Period	Approved home-market price	Home-market levy	Additional payment to producers					
			Calves		Cattle			
			Up to 240 pounds	240 to 659 pounds	Up to 659 pounds	660 to 880 pounds	881 to 1100 pounds	1100 pounds and over
	<i>Cents per lb.¹</i>	<i>Cents per lb.¹</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>
10/ 1/62–10/28/62	30.7	3.6	0	1.44	1.44	3.59	5.03	6.47
10/29/62–12/30/62	30.7	5.2	0	2.87	2.87	5.03	6.47	7.90
12/31/62– 1/20/63	30.7	6.5	0	2.87	2.87	10.78	12.21	12.93
1/21/63– 2/10/63	30.7	6.5	0	4.31	4.31	6.47	10.78	14.37
2/11/63– 2/24/63	30.7	8.5	3.59	5.75	5.75	8.62	12.21	15.81
2/25/63– 3/24/63	31.8	9.5	3.59	7.19	7.19	9.34	12.93	17.24
3/25/63– 4/ 7/63	31.8	9.5	2.87	5.75	5.75	7.19	10.06	13.65
4/ 8/63– 4/28/63	31.8	8.8	2.16	5.03	5.03	6.47	9.34	12.21
4/29/63– 5/26/63	31.8	6.5	2.16	3.59	3.59	5.03	6.47	7.90
5/27/63– 6/ 9/63	31.8	4.6	1.44	1.44	1.44	2.87	4.31	5.75
6/10/63– 7/14/63	31.8	2.0	.72	.72	.72	1.44	2.16	2.87
7/15/63– 8/25/63	32.1	1.3	0	0	0	0	2.16	2.87
8/26/63– 8/31/65	32.1	(³)	(³)	(³)	(³)	(³)	(³)	(³)
1/ 9/66– 4/30/66	34.2	(³)	(³)	(³)	(³)	(³)	(³)	(³)
5/ 1/66–10/30/66	35.5	(³)	(³)	(³)	(³)	(³)	(³)	(³)

Period	Approved home-market price	Home-market levy	Additional payment to producers	
			Cattle and calves, 265 to 770 pounds	Cattle, 771 pounds and over
	<i>Cents per lb.¹</i>	<i>Cents per lb.¹</i>	<i>Dol. per head²</i>	<i>Dol. per head²</i>
10/31/66–12/ 4/66	35.5	4.9	2.87	6.47
12/ 5/66– 1/22/67	35.5	2.3	1.44	3.59
1/23/67– 2/19/67	35.5	2.9	1.44	4.31
2/20/67– 4/ 9/67	35.5	2.0	1.44	2.87
4/10/67– 5/14/67	35.5	1.3	1.44	2.87
5/15/67– 6/25/67	35.5	(³)	(³)	(³)
6/26/67– 7/ 2/67	36.1	(³)	(³)	(³)
7/ 3/67– 7/23/67	36.7	(³)	(³)	(³)
7/24/67– 8/ 6/67	36.7	2.6	2.16	5.03
8/ 7/67– 9/ 3/67	36.7	4.3	4.31	7.19
9/ 4/67–10/ 8/67	36.7	3.3	4.31	7.19
10/ 9/67–10/22/67	36.7	5.9	5.75	12.21
10/23/67–10/31/67	36.7	6.8	16.47	13.65
11/ 1/67–11/12/67	33.9	6.3	5.98	12.63
11/13/67–12/10/67	33.9	7.8	7.31	14.62
12/11/67–12/24/67	33.9	6.9	5.32	13.29
12/25/67– 1/14/68	33.9	5.4	4.65	10.63
1/15/68– 1/14/68	33.9	4.2	3.99	8.64
1/15/68– 2/ 4/68	33.9	3.0	1.99	4.65
2/ 5/68– 2/25/68	33.9	(³)	(³)	(³)
2/26/68– 6/30/68	33.9	2.1	1.99	3.32
7/ 1/68– 7/21/68	33.9	3.0	3.32	4.65
7/22/68– 8/ 4/68	33.9	4.8	4.65	7.97
8/ 5/68– 9/ 1/68	33.9	3.6	3.32	6.65
9/ 2/68– 9/ 8/68	33.9	2.4	1.99	3.99
9/ 9/68– 9/22/68	33.9	1.8	1.99	3.99
9/23/68–10/ 6/68	33.9	3.0	3.32	6.65
11/ 4/68–11/24/68	33.9	2.1	1.99	4.65
11/25/68–11/31/68	33.9	1.2	0.66	1.99
12/11/69– 3/ 9/69	33.9	(³)	(³)	(³)
3/10/69– --	34.4	(³)	(³)	(³)

¹ Slaughter weight. ² Live weight. ³ Suspended.

There is no levy for beef and veal comparable with the levy to bacon factories. As for canned pig meats, limited funds from the surplus-disposal account are available to finance exports of canned beef to developing countries. Also, the government purchases and stores beef and veal during periods of low prices.

Lamb and mutton are produced almost exclusively for the domestic market. Therefore, the domestic lamb and mutton markets determine producer prices for lambs and sheep.

MEAT

Slaughter trends

Cattle slaughter in 1968 was estimated at 1,168,000 head, compared with 1,181,000 in 1967 and the 1961-65 average of 940,000 (table 4). Most of the variation in slaughter from year to year results from changes in exports of live cattle. With the imposition of variable levies on imports of live cattle into the EC, Denmark's exports declined. This resulted in relatively larger numbers becoming available for slaughter and more beef available for export. However, in 1968 exports of slaughter cattle increased by about 48,300 head over the relatively low level of exports in 1967. This reversal in the trend in exports of slaughter cattle reduced the quantity of beef produced for export in 1968.

Table 4.—DENMARK: Livestock slaughter by type¹

Year	Cattle and calves	Hogs ²	Sheep	Horses
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
Average:				
1956-60	881	8,226	30	18
1961-65	940	10,781	34	7
Annual:				
1961	808	10,055	34	11
1962	1,021	10,142	32	6
1963	1,078	10,452	31	7
1964	930	11,118	33	7
1965	862	12,140	40	5
1966	1,072	11,650	53	4
1967	1,181	11,698	79	3
1968 ³	1,168	11,600	86	3

¹ Excludes live animals exported for slaughter. ² Includes an allowance for farm slaughter. ³ Preliminary.

Hog slaughter in 1968 was estimated at 11.6 million head, compared with 11.7 million in 1967 and the 1961-65 average of 10.8 million (table 4). In Denmark, as in the United States, increases or declines in hog production can be associated with changes in the ratio of pork prices to feed grain prices.

In the current decade the ratio was most favorable in 1964, averaging 10.4 to 1 for the year (table 5). This favorable situation for hog production in 1964 was reflected in larger numbers slaughtered in 1965. The appreciably less favorable pork/feed grain ratio during the last 4 years has been reflected in a leveling off in the supply of hogs for slaughter.

Sheep slaughter was estimated at 86,000 head in 1968, compared with 79,000 in 1967 and the 1961-65 average of 34,000 (table 4). These increases, even though the slaughter level is still small, are spectacular. The increase in sheep is attributed to the cost-price squeeze on the dairy industry and the fact that production costs for sheep, particularly feed and labor costs, are much lower.

Table 5.—DENMARK: Ratio of pork prices to feed grain prices

Month	1961	1962	1963	1964	1965	1966	1967	1968 ¹
January	10.57	7.96	8.90	10.24	10.58	9.03	9.52	9.17
February	10.22	8.22	9.22	10.61	9.39	8.95	9.20	8.83
March	9.55	8.60	8.88	10.43	9.24	9.45	8.80	8.37
April	9.69	8.07	8.12	10.15	8.95	9.48	8.04	8.44
May	9.89	7.34	8.44	10.08	8.55	9.37	7.64	8.06
June	10.09	7.05	8.83	9.42	8.72	9.24	7.84	8.44
July	9.99	—	9.18	9.49	7.73	9.42	8.00	8.62
August	—	—	—	—	—	9.93	—	—
September	9.02	—	10.25	10.95	8.50	9.86	10.09	11.21
October	8.34	9.24	9.98	10.91	9.52	9.75	10.09	11.14
November	8.60	9.31	9.97	10.76	9.73	9.66	9.56	11.11
December	8.02	8.92	10.11	11.08	9.47	9.65	9.43	11.24
Average	9.44	8.22	9.27	10.38	9.02	9.45	8.91	9.30

¹ Preliminary

Production

Beef and veal production totaled 470 million pounds, carcass weight, in 1968, compared with 477 million in 1967 and a 1961-65 average of 343 million (table 6). As is true for cattle slaughter, production of beef and veal is in part dependent upon the export market for live cattle. Cattle that cannot be sold for the domestic beef market or exported as live slaughter animals are slaughtered for export as beef. Normally, the beef export market is the least attractive market.

In 1968 exports of slaughter cattle totaled 143,600 head, an increase of 48,300 over 1967. This increase in exports of live cattle was offset by a decline in beef production for export. The net effect was very little change in production of beef and veal for domestic use.

Pork production was estimated at 1,578 million pounds, carcass weight, in 1968, compared with 1,618 million in 1967 and a 1961-65 average of 1,463 million (table 6). Although pork production has increased substantially over the last 10 to 15 years, output has not increased in the last 3 years. This leveling off in production may be due to increasing costs, particularly for feeding materials, which discourages expansion of the industry (table 5).

Mutton and lamb production was estimated at 6.6 million pounds in 1968, compared with 4.6 million in 1967 and a 1961-65 average of 2.6 million. It is too early to place any great importance on the sharp increase in

Table 6.—DENMARK: Meat production by type, carcass weight equivalent¹

Year	Beef and veal	Pork ²	Mutton and lamb	Horse	Total meat production
	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>
Average:					
1956-60	319.7	1,156.8	2.3	12.8	1,491.6
1961-65	343.0	1,463.2	2.6	5.1	1,813.9
Annual:					
1961	293.7	1,351.6	2.6	7.9	1,655.8
1962	377.9	1,391.5	2.2	4.4	1,776.0
1963	380.7	1,420.9	2.2	5.1	1,808.9
1964	334.0	1,515.0	2.6	4.6	1,856.2
1965	328.7	1,637.1	3.1	3.7	1,972.6
1966	423.5	1,608.5	4.2	2.6	2,038.8
1967	477.3	1,618.2	4.6	2.6	2,102.7
1968 ³	469.8	1,578.4	6.6	2.0	2,056.8

¹ Excludes stocks, live animals exported for slaughter, destroyed animals, and variety meats. ² Excludes lard production.³ Preliminary.

production of lamb and mutton since they account for an insignificant part of the total supply of red meats. Reportedly, the increase in lamb and mutton production has displaced dairy production on farms with marginal land. From a national point of view, this development is advantageous. The highest cost areas for dairy products (which are now in surplus supply) are producing increasing quantities of lamb and mutton, which are in relatively short supply.

Domestic consumption

Domestic consumption accounts for only one-fourth of the total production of red meats. Per capita consumption of red meats was 112 pounds in 1968, compared with 123 pounds in 1967 and a 1961-65 average of 113 pounds (table 7). All of the decline in meat consumption recorded in 1968 was attributed to pork. It is possible that noncommercial production (farm slaughter) was larger than officially estimated in 1968. Increases in the home-market price for pork encourage more farm slaughter. Nevertheless, pork accounts for about 60 percent of Denmark's total consumption of red meats. Price is the major factor contributing to the relatively low per capita consumption of beef and veal. Danish consumers consider beef and veal to be expensive food items.

Table 7.—DENMARK: Meat, consumption, total and per capita, by type, carcass weight equivalent

Year	Beef and veal	Pork ¹	Mutton and lamb	Horse	Total
Total consumption:	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>
Average:					
1956-60 ²	172.0	406.7	2.6	4.0	585.3
1961-65 ³	160.6	360.1	3.1	5.5	529.3
Annual: ³					
1961	153.9	375.7	3.1	7.1	539.8
1962	176.6	357.8	3.1	5.1	542.6
1963	141.8	337.5	2.9	5.7	487.9
1964	164.0	353.8	3.1	5.3	526.2
1965	166.7	375.9	3.5	4.2	550.3
1966	210.3	378.1	4.9	2.9	596.2
1967	207.0	378.8	5.3	3.1	594.2
1968 ⁴	214.9	322.8	6.6	2.0	546.3
Per capita consumption:	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Average:					
1956-60 ²	38.0	89.9	0.6	1.9	130.4
1961-65 ³	34.3	76.8	.7	1.2	113.0
Annual: ³					
1961	33.4	81.4	.7	1.5	117.0
1962	38.0	76.1	.7	1.1	115.9
1963	30.3	72.1	.6	1.2	104.2
1964	34.9	75.2	.7	1.1	111.9
1965	35.2	79.3	.7	.9	116.1
1966	43.9	78.9	1.1	.6	124.5
1967	42.9	78.5	1.1	.6	123.1
1968 ⁴	44.3	66.3	1.4	.4	112.4

¹ Excludes lard consumption. ² Includes variety meats. ³ Excludes variety meats. ⁴ Preliminary.

OTHER PRODUCTS

Animal fats

Lard and inedible tallow and greases are produced in quantities substantially above domestic requirements. Lard production increased from 73 million pounds in 1961 to 88 million in 1967. Inedible tallow and grease production increased from about 75 million pounds in 1961 to 113 million in 1967 (table 8).

Table 8.—DENMARK: Lard and tallow production

Year	Lard	Tallow
	<i>Million pounds</i>	<i>Million pounds</i>
Average:		
1956-60	58.6	56.0
1961-65	79.2	85.0
Annual:		
1961	71.4	74.7
1962	73.6	75.4
1963	74.5	88.0
1964	82.0	90.4
1965	91.9	99.3
1966	90.4	110.7
1967	90.2	112.7
1968	88.2	110.2

Denmark currently has an annual export surplus of more than 30 million pounds of lard and nearly 20 million pounds of tallow and greases. About three-fourths of the lard exports are to the United Kingdom. Most of the inedible tallow and greases are exported to European countries, with the EC countries the primary market.

Hides and skins

Denmark produces a little over a million cattle hides and calf skins, a small number of sheep and lamb skins, and a few pig skins annually. According to trade statistics, Denmark is a net exporter of cattle and calf skins, although imports of these items are almost equal to exports. Apparently certain types and qualities of hides and skins are produced in substantial excess of domestic requirements, while other types and qualities needed by the Danish leather industry are in short supply.

POTENTIAL FOR INCREASED PRODUCTION

Denmark has achieved a relatively high degree of intensive production with a mixed type of farming. Its farmers use modern equipment and large amounts of fertilizer to achieve good yields from grain crops, fodder, and pasture for livestock production. Most of the land suitable for agriculture has been developed. Only small areas of coastal lowland and swamps remain that could be developed for agriculture.

Nevertheless, Denmark, with more widespread use of the technology currently known to its agricultural scientists, could achieve substantial increases in production of grain, fodder, and pastures. With increased supplies of feedstuffs, a corresponding increase could be achieved in livestock output. The physical limitations on livestock production other than feed are labor, buildings and equipment, and breeding stock. With respect to all of these inputs, Denmark still has considerable potential for increased production.

The short-term outlook for Denmark's livestock and meat industry is for only relatively small increases in production. The supply of feedstuffs is not the main deterrent to increased livestock production. The primary obstacle is the cost of feeds. Denmark has traditionally been an importer of feedgrains, but domestic programs designed to encourage grain production have resulted in Danish farmers paying higher prices for both imported and domestic feedgrains.

In addition to the rise in prices of feeds, costs for other inputs also are increasing. These include hired labor, buildings, and equipment.

With the increases in costs of production, Danish livestock producers are able to obtain comparable increases in prices for their products sold on the domestic market. Since the domestic market takes only one-fourth of total production of livestock and meat products (less than 20 percent of their pork), most of these increased costs could be offset only if export prices were to rise. Prospects are that the gap will widen between export prices and the approved home-market prices for meat and meat products. Therefore, it would appear that livestock farmers will have less incentive to expand output than they did a few years ago.

FOREIGN TRADE

Denmark is a traditional exporter of food products, primarily livestock products, and an importer of manufactured products and raw materials. This country lacks raw materials for industrial development but is geographically well situated to produce food products for export. The densely populated neighboring countries of Western Europe, which have high levels of food consumption, have been excellent trading partners for Denmark. More than 80 percent of Denmark's agricultural exports are to Western European countries.

Most of Denmark's imports of livestock and meat products are subject to control by import license procedures. In most instances, import licenses are granted freely for commodities for which there is a definite need and which have been produced and processed under acceptable sanitary and health conditions. Prior to 1962 when export prices largely established Danish domestic market prices, the competitive advantage for products produced in Denmark excluded imports of most livestock and meat products. Production of most livestock products still exceeds requirements. Denmark exports appreciable quantities of a wide variety of livestock and meat products (table 9). With increases that have occurred in the approved home-market prices, the domestic-market price currently would attract imports of many livestock products if import licenses were granted freely.

The United Kingdom and the EC countries (mainly West Germany and Italy) have been Denmark's most important export outlets for livestock and meat products (table 10). The United Kingdom, like Denmark, is a member of EFTA. Denmark's trade relations with EFTA remain favorable, and prospects are that this situation will continue at least as long as the United Kingdom remains in EFTA and outside the EC. If the United Kingdom should gain its long-sought membership in the EC, Denmark's economic survival would be heavily dependent upon the EC's acceptance of Denmark as a member.

Denmark, as is true of other major exporters of livestock and meat products, is experiencing considerable difficulty with the EC. Denmark's export trade in slaughter cattle to West Germany has declined to about one-third of its magnitude in the early 1960's. This decline is a direct result of the EC's common agricultural policy for cattle and beef. This loss in exports has been costly since Germany was a high-priced, protective market, secured by treaty, for Danish cattle. Consequently, the equivalent of an additional 200,000 head of cows in the form of beef has been diverted from the German market to the domestic market and to the lower priced world market.

That Denmark will adjust to the new export situation for cattle and beef, as it has to changes for other commodities in the past, there is no doubt. Market promotion, competitive pricing, quality control, and the standardization of products are all important aspects of Denmark's export programs.

Denmark's traditional export products, such as pork, are world renowned for their uniformly high quality and competitive prices. Often Danish products are priced competitively with lower quality products in other countries. However, in some instances premium prices are maintained on exports to certain markets. For example, minimum c.i.f. prices are established on canned hams and shoulders exported to the United States. These minimum prices, set by the Danish Meat Canning Factories Export Association, are maintained slightly above prevailing wholesale prices of U.S. canned hams and shoulders.

Bacon, in the form of salted Wiltshire sides, is Denmark's largest meat export item (table 10). Pork shipments to the United Kingdom, primarily Wiltshire sides, account for about two-thirds of Denmark's total exports of pork products (table 11). In this instance, the U.K. market, plus any premium that the U.K. consumer is willing to pay for the Danish product, establishes the export price for Danish bacon. The U.K. quotation for Danish bacon, in turn, has an appreciable influence on hog prices in Denmark and the relative price of pork products exported to markets other than the EFTA countries (see section on marketing practices).

The U.K. Bacon Agreement is a market sharing understanding whereby the United Kingdom apportions the total bacon market between home products and imports. Under terms of the renewed understanding, which came into effect on April 1, 1969, and will expire March 31, 1972, tonnage shares will be allocated each year to the exporters in accordance with the estimated deficit in domestic production made by the U.K. Minister of Agriculture.

For 1969-70, the United Kingdom's total requirement for bacon is estimated at 639,000 long tons and its domestic production at 233,600 tons. The estimated import deficit of 405,400 tons was divided as follows: Denmark, 302,850 tons; Poland, 50,310 tons; Ireland, 28,180 tons; Sweden, 11,010 tons; Hungary, 2,380 tons; the Netherlands, 8,160 tons; Yugoslavia, 1,010 tons; and Romania (included for the first time), 1,500 tons.

Denmark's allotted share of the U.K. bacon market for 1969-70, at 302,850 tons, is equivalent to 47.4 percent of the anticipated total. Denmark's share for each of the 2 preceding years (1967-68 and 1966-67) was 300,460

Table 9.—DENMARK: Exports of livestock and meat products

Commodity	1962	1963	1964	1965	1966	1967	1968 ¹
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
Live animals:							
Foals.....	0.7	0.8	0.6	0.8	0.5	0.3	0.3
Horses.....	16.1	13.7	9.4	7.6	5.2	3.7	3.4
Calves.....	2.7	.9	4.3	2.9	.1	.2	0.6
Cattle:							
Breeding.....	5.0	5.0	11.6	11.7	8.9	9.6	12.4
Slaughter.....	286.2	333.6	250.4	262.6	59.6	95.3	142.8
Hogs.....	136.8	126.5	121.9	198.1	182.6	140.9	158.3
Sheep and goats.....	(2)	--	(2)	.1	.2	.2	1.0
Meat and meat products: ³	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Fresh, chilled or frozen:							
Horse meat.....	11	31	225	--	--	--	--
Veal.....	57,752	97,364	96,376	93,144	103,722	110,406	118,453
Beef.....	111,271	110,889	57,952	46,799	80,911	126,826	98,872
Pork.....	84,560	131,130	157,728	207,590	125,510	125,984	148,248
Mutton and lamb.....	93	126	198	165	207	300	895
Variety meats:							
Pork.....	60,331	64,919	58,724	65,794	68,219	62,981	56,645
Beef.....	10,538	9,006	8,243	7,917	8,243	11,993	11,962
Other meats (excluding poultry).....	6,025	5,880	4,991	5,922	4,680	3,532	2,280
Pork fat, unrendered, fresh or salted.....	2,390	3,726	3,885	3,986	8,671	4,605	5,997
Lard, edible.....	32,990	33,585	34,279	31,590	35,009	30,862	24,621
Salted, dried or smoked:							
Beef and veal, salted.....	752	820	282	306	401	752	906
Wiltshire sides, salted.....	642,868	628,210	648,975	675,542	669,436	670,097	629,634
Wiltshire sides, dried or smoked.....	2,308	5,481	8,419	7,693	8,086	9,500	7,681
Other pork, salted.....	7,238	655	2,454	681	357	364	35,269
Other pork, dried or smoked.....	2,235	2,716	2,269	2,842	2,994	1,914	6,309
Other meats (excluding poultry).....	--	4	--	42	95	2	2
Variety meats.....	8,494	7,928	5,606	6,521	7,855	8,199	9,766
Sausages, hermetically sealed.....	8,111	13,195	16,085	19,539	24,539	23,715	28,803
Sausages, not hermetically sealed.....	7,006	8,289	7,449	9,048	10,873	12,579	14,597
Hermetically sealed:							
Sliced bacon.....	--	--	--	--	--	--	11,887
Hams.....	56,151	65,929	62,593	79,630	84,732	73,517	84,854
Shoulders (picnic hams).....	11,219	17,780	22,220	24,828	34,279	34,698	40,181
Other pork products.....	10,207	12,284	9,753	15,880	25,983	18,135	8,391
Beef and veal and other meats.....	203	291	123	364	359	313	245
Variety meats.....	2,743	3,472	3,388	3,311	3,662	3,386	3,294
Luncheon meats.....	78,047	83,837	86,400	104,427	125,135	130,228	144,895
Liver paste.....	1,166	1,541	1,792	2,035	1,799	1,899	3,990
Other meat products.....	20,999	24,048	27,793	30,823	36,177	40,906	4,522
Meat products, not hermetically sealed.....	408	326	496	664	761	500	666
Casings, salted or dried.....	36,872	37,139	39,897	39,502	40,106	38,790	41,431
Total meat and meat products.....	1,262,968	1,370,601	1,368,595	1,487,585	1,512,801	1,546,973	1,544,246

¹ Preliminary. ² Less than 500 head. ³ Product weight.

tons, which represented 47.5 percent of the total market. In 1965-66 Denmark's allocation was 289,000 tons (46.6 percent of the total), and in 1964-65 the Danish share was 286,000 tons (46.6 percent of the total).

Theoretically, under terms of the renewed understanding of the U.K. Bacon Agreement, British farmers could expand their output even to where they would be supplying the entire U.K. market. However, the short-term prospects are that British farmers will not be able to reduce the import deficit. In the meantime, this market-sharing arrangement gives Denmark the assurance of duty-free entry into its largest export market for pork.

Approximately 25 percent of Denmark's pork production is exported as canned meat. The United States is its largest market for canned pork, primarily hams and shoulders (table 10). The United States imposes sanitary restrictions on imports of Danish fresh or frozen pork as a result of sporadic outbreaks of foot-and-mouth disease in

Table 10.—DENMARK: Exports of specified meats and meat products, product weight

Country of destination	1965	1966	1967	1968 ¹
Beef and veal, fresh, chilled or frozen, except variety meats:	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
EC	114,678	134,207	140,656	150,340
Sweden	4,290	3,988	8,635	15,520
Portugal	--	2,657	11,380	12,238
Norway	1,102	3,340	3,622	9,707
United Kingdom	739	1,856	3,084	8,761
West Germany (foreign troops)	--	--	5,212	6,911
Switzerland	6,453	8,757	9,731	5,046
East Germany	7,493	17,650	38,940	1,016
Spain	--	95	9,945	(²)
Other countries	5,193	12,094	6,029	7,784
Total	139,948	184,644	237,234	217,323
Beef variety meats, fresh, chilled or frozen:				
EC	3,210	4,729	5,093	4,253
United Kingdom	3,067	2,412	5,245	5,340
Sweden	1,402	910	1,334	2,178
Other countries	238	194	321	193
Total	7,917	8,245	11,993	11,964
Canned beef:				
EC	37	110	115	315
Norway	--	15	46	99
Sweden	--	--	24	37
United Kingdom	170	143	--	93
Guinea	--	--	--	467
Tunisia	--	--	--	377
Egypt	--	--	--	276
Canada	--	--	--	328
United States	--	--	--	24
Iraq	--	--	--	653
Jordan	--	--	--	564
Lebanon	--	--	--	487
Syria	--	--	--	348
Other countries	20	36	113	1,358
Total	227	304	298	5,426
Salted, dried or smoked: ³				
EC	--	33	26	42
Ghana	--	--	476	813
United Kingdom	--	--	157	7
Sweden	7	13	77	2
Other countries	341	412	267	42
Total	348	458	1,003	906
Pork, fresh, chilled or frozen, except variety meats: ⁴				
EC	64,437	53,368	40,734	61,427
Sweden	15,115	14,293	14,336	22,875
Switzerland	16,232	18,975	12,687	855
Poland	--	2,434	8,794	24,222
Portugal	7,584	1,592	8,082	2,577
Hungary	14,079	2,169	7,200	1,102
Venezuela	7,524	6,667	7,046	5,516
Norway	3,422	6,881	8,737	3,713
South Vietnam	--	--	3,278	8,124
United Kingdom	1,114	2,937	1,869	2,941
Austria	--	--	--	1,173

See footnotes at end of table.

Table 10.—DENMARK: Exports of specified meats and meat products, product weight—Con.

Country of destination	1965	1966	1967	1968 ¹
Pork, fresh, chilled or frozen, except variety meats—Con.: ⁴	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
East Germany	36,471	2,315	1,102	(²)
West Germany (foreign troops).....	--	--	1,565	2,840
Other countries.....	45,577	22,541	15,122	16,706
Total	211,555	134,172	130,552	154,071
Pork variety meats, fresh, chilled or frozen:				
EC.....	31,184	35,490	29,310	23,750
United Kingdom.....	28,338	24,645	26,180	30,095
Sweden.....	3,080	2,998	3,501	916
West Germany (foreign troops).....	--	--	126	40
Other countries.....	3,196	5,088	3,860	1,801
Total	65,798	68,221	62,977	56,647
Pork, salted, dried or smoked: ⁵				
EC.....	5,057	5,553	2,732	3,351
United Kingdom.....	675,774	669,402	669,465	664,103
Sweden.....	3,648	3,294	788	4,339
West Germany (foreign troops).....	--	--	1,001	1,614
Other countries.....	9,778	10,231	9,830	14,144
Total	694,257	688,480	683,816	687,551
Canned pork: ⁶				
Canada.....	--	--	--	4,268
EC.....	8,616	11,247	9,879	5,677
United States.....	98,210	124,783	102,269	112,880
United Kingdom.....	89,204	94,508	96,374	66,643
Sweden.....	2,940	2,974	3,081	3,569
Other countries.....	27,628	32,448	44,558	37,467
Total	226,598	265,960	256,161	230,504
Mutton and lamb, fresh, chilled or frozen:				
EC.....	--	7	77	553
Norway.....	--	90	134	198
Other countries.....	165	110	86	144
Total	165	207	297	895
Other canned meats: ⁷				
West Germany (foreign troops).....	--	--	--	190
EC.....	6,492	6,716	6,234	2,989
United Kingdom.....	13,933	17,171	15,060	30,303
United States.....	11,368	16,926	11,334	10,154
Canada.....	1,369	6,082	6,843	5,258
Sweden.....	331	201	119	836
Other countries.....	20,368	23,179	24,058	15,172
Total	53,861	70,275	63,648	64,302
Other meat products: ⁸				
West Germany (foreign troops).....	--	--	--	870
EC.....	588	855	1,599	2,269
United Kingdom.....	909	889	1,076	2,079
United States.....	346	986	70	2,959
Sweden.....	376	331	374	650
Other countries.....	7,494	8,571	9,963	8,502
Total ⁹	9,713	11,632	13,082	16,737
Total meat and meat products.....	1,416,493	1,437,688	1,477,321	1,445,093

¹ Preliminary. ² If any, included in "Other countries." ³ Includes variety meats. ⁴ Includes unrendered pork fat. ⁵ Includes Wiltshire sides, hams, bacon, pork variety meats, unrendered pork fat, and other pork products. ⁶ Includes hams, shoulders, bacon, chopped ham and chopped pork, luncheon meat, variety meats, and other canned pork products. ⁷ Includes mixed pork and beef luncheon meats, sausages, liver paste, and other meat paste, and other meat products. ⁸ Includes salami and other sausages, deep-frozen cooked meat products, and liver paste. ⁹ Individual totals will not add to grand total because some minor exports are excluded from above data.

Table 11.—DENMARK: Exports of animal fats

Country of destination	1965	1966	1967	1968 ¹
Edible:	1,000	1,000	1,000	1,000
Lard:	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>
EC	4,049	5,190	4,548	3,194
United Kingdom . .	24,270	28,082	22,156	20,670
Hungary	1,984	--	2,205	--
Poland	--	--	884	2
Other countries . . .	1,287	1,693	1,069	753
Total	31,590	34,965	30,862	24,619
Tallow, raw:				
EC	56	--	--	--
Other countries . . .	88	115	44	--
Total	143	115	44	--
Premier jus:				
EC	503	247	53	207
United Kingdom . .	2,286	3,373	3,585	4,643
Switzerland	--	207	1,975	--
Other countries . . .	1,477	3,744	1,682	4,303
Total	4,266	7,571	7,295	6,153
Inedible:				
Lard: ²				
EC	7,696	12,563	8,007	853
Other countries . . .	684	590	983	8,034
Total	8,380	13,153	8,990	8,953
Tallow:				
Norway	--	--	--	443
EC	419	194	287	33,409
Finland	--	--	1,371	--
Kenya	--	--	--	1,766
Other countries . . .	392	1,667	1,750	2,482
Total	811	1,861	3,408	38,100

¹ Preliminary. ² Lard for technical use.

Denmark. Although exports of canned pork to the United States, at about 113 million pounds in 1968, represented a relatively large market for Danish producers, these exports constituted only a small percentage of total U.S. pork requirements. Consequently, Denmark has had little difficulty maintaining a slight premium in prices for its canned hams and shoulders in the U.S. market.

Denmark exports about equal quantities of beef and veal, mostly fresh, chilled, or frozen. The EC, primarily Italy, has been Denmark's best market for beef and veal (table 10). In 1967 Italy took nearly 50 percent of Denmark's exports of beef and veal. The other five EC countries also have taken Danish exports of beef and veal, although in relatively small quantities. Other European countries, including East Europe, take the remainder of Denmark's exports of beef and veal. With EC import levies on beef and veal continuing to rise, Denmark is striving to ship more beef and veal to East European countries and to West European countries outside the EC.

Denmark's foreign trade in mutton and lamb is relatively small. Even imports are small in spite of its low per capita consumption of mutton and lamb.

Western Europe, primarily the EC countries and the United Kingdom, is Denmark's best market for livestock byproducts. The United Kingdom is Denmark's largest market for lard (table 11). Denmark exports appreciable quantities of tallow and other inedible animal fats to the EC (table 11). Denmark's exports of animal casings are destined for a number of countries, but shipments to the EC account for about 90 percent of the total (table 12).

Table 12.—DENMARK: Exports of salted or dried animal casings

Country of destination	1965	1966	1967	1968 ¹
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
EC	31,085	31,405	31,908	41,967
United States	5,045	5,648	4,008	5,847
Norway	458	570	560	736
East Germany	518	362	481	1,210
United Kingdom	538	330	428	2,659
Spain	516	556	368	315
Finland	426	445	225	498
Sweden	441	313	214	289
Austria	213	196	187	161
Switzerland	102	128	154	187
Poland	46	37	121	93
Portugal	97	62	62	4
Other countries	18	54	78	2,033
Total	39,503	40,106	38,794	55,999

¹ Preliminary.

The United Kingdom and the EC receive a large proportion of Denmark's exports of cattle and calf skins (table 13).

Table 13.—DENMARK: Exports of cattle and calf skins

Country of destination	1965	1966	1967	1968 ¹
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Cattle hides:				
EC	3,834	5,416	10,247	10,146
United Kingdom	4,786	6,370	9,335	5,981
Sweden	4,006	4,084	7,610	9,727
Poland	2,468	4,264	4,326	498
East Germany	3,306	5,552	2,668	6,133
Norway	1,693	3,159	2,258	2,390
Czechoslovakia	2,208	2,481	2,227	1,257
Hungary	386	17	595	--
Yugoslavia	422	343	214	--
Switzerland	0	97	95	--
United States	0	34	6	--
Other countries	1,605	634	300	182
Total	24,714	32,451	39,881	36,314
Calf skins:				
EC	566	589	629	602
Sweden	654	1,079	1,477	1,819
East Germany	850	329	768	922
United Kingdom	901	550	734	322
United States	0	214	443	322
Romania	0	78	391	--
Japan	41	0	93	--
Czechoslovakia	0	0	50	--
Other countries	422	293	79	519
Total	3,434	3,132	4,664	4,506

¹ Preliminary

COMPETITION WITH U.S. PRODUCERS

Direct competition between Danish and U.S. livestock and meat products is limited primarily to canned pork and a small number of animal byproducts. Danish canned pork competes with U.S. canned pork on the U.S. market, while both countries sell animal byproducts on the world market. Lard, tallow, variety meats, and cattle hides are the most important byproducts that both countries export.

U.S. imports of canned pork from Denmark totaled about 112 million pounds in 1968, compared with 101 million in 1967 (table 14). In addition, 1 million pounds of cured pork and pork sausage and 15.5 million pounds of other sausages and mixed meats, including pork and beef luncheon meats, were imported from Denmark in 1968.

Table 14.—UNITED STATES: Imports of meat and meat products from Denmark

Commodity	1964	1965	1966	1967	1968 ¹
Pork:	<i>1,000</i>	<i>1,000</i>	<i>1,000</i>	<i>1,000</i>	<i>1,000</i>
Canned:	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>	<i>pounds</i>
Hams and shoulders	58,280	72,532	87,707	80,384	91,584
Bacon	4,042	7,383	16,321	8,825	8,831
Other	3,913	5,149	12,373	11,916	10,214
Cured:					
Hams and shoulders	15	12	37	15	7
Bacon	--	--	3	30	103
Other	120	--	5	183	80
Sausage, except fresh .	79	94	504	904	1,121
Total pork	66,449	85,170	116,950	102,257	111,939
Beef and veal ²	85	203	137	135	126
Other meats ³	5,576	9,457	15,210	11,248	8,934
Sausage, mixed	4,037	4,480	5,400	6,226	6,568

¹ Preliminary. ² Beef sausage and other prepared and preserved. ³ Primarily mixed luncheon meats of beef and pork.

The United States is an important market for Denmark, particularly for canned hams and shoulders. The United States takes more than 70 percent of Denmark's exports of canned hams and shoulders. Four out of every 10 pounds of canned hams and shoulders consumed in the United States are imported, and one out of every three imported is Danish.

Nevertheless, less than 1 percent of the pork consumed in the United States is Danish. Total U.S. imports of pork from all countries is equivalent to only about 3 percent of total U.S. pork consumption.

U.S. imports of luncheon meats from Denmark increased substantially between 1964 and 1966 but declined abruptly in 1967 (table 14). Danish meat industry officials attributed the declines to lower prices offered by other suppliers to the U.S. market. This belief is confirmed by U.S. import data. Total U.S. imports for the category in which pork luncheon meats are included declined slightly in 1967 and 1968, but a twofold increase occurred in imports for the category which includes luncheon meat mixtures of beef and pork.

Denmark exports a large part of its surplus byproducts, such as variety meats, lard, inedible tallow, and cattle hides, to Western European countries. Western Europe is also a traditional market for U.S. variety meats, lard, tallow, and hides. In recent years, countries in Western Europe, particularly in the EC, have been producing more of their own requirements. With the aid of subsidies, the EC is exporting lard and a few other animal byproducts. Consequently, Western Europe is taking a smaller volume of U.S. exports of tallow, lard, and hides.

The Far East and South Asia, partly as a result of the increased competition in Western Europe, have become the largest markets for U.S. tallow and hides. Lard is a different story.

The United Kingdom is the traditional market for U.S. lard. With lower prices made possible by export subsidies, the EC has taken over a large share of the U.K. lard market. Also, Danish lard has remained more competitive in price than the U.S. product with EC lard. U.S. lard exports to the United Kingdom of a little over 100 million pounds per year are only one-fourth of their former level. The United States has no other lard export market of significance. Therefore, in an effort to counter the EC export subsidies and regain its foreign trade position, the United States initiated a lard export subsidy program in January 1969. Danish lard also is likely to be priced competitively on the U.K. market.

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